

WHAT IS CLAIMED IS:

1 1. An anisotropically conductive sheet that exhibits
2 conductivity in its thickness-wise direction, which
3 comprises a semiconductive part that exhibits
4 semiconductivity in the plane direction of the sheet.

1 2. The anisotropically conductive sheet according to
2 Claim 1, wherein the volume resistivity of the
3 semiconductive part is 10^{-7} to $10^4 \Omega\text{m}$.

1 3. The anisotropically conductive sheet according to
2 Claim 1, wherein the surface resistivity of the
3 semiconductive part is 10^{-1} to $10^{10} \Omega/\square$.

1 4. An anisotropically conductive sheet comprising a
2 plurality of conductive parts each extending in the
3 thickness-wise direction of the sheet and semiconductive
4 parts each exhibiting semiconductivity in the plane
5 direction of the sheet and formed so as to surround each
6 of the conductive parts.

1 5. An anisotropically conductive sheet comprising a
2 plurality of conductive parts each extending in the
3 thickness-wise direction of the sheet, insulating parts
4 formed so as to surround each of the conductive parts, and
5 semiconductive parts each exhibiting semiconductivity in
6 the plane direction of the sheet and formed so as to

7 surround each of the insulating parts.

1 6. An anisotropically conductive sheet comprising a
2 base sheet exhibiting semiconductivity in its plane
3 direction and conductive particles contained in the base
4 sheet in a state oriented so as to be arranged in the
5 thickness-wise direction of the base sheet.

1 7. The anisotropically conductive sheet according to
2 Claim 1, wherein the semiconductive parts or base sheet
3 contains at least one conductive substance selected from
4 among conductive organic substances, amine type organic
5 conductive substances, conductive polymers, metallic
6 particles and carbon black.

1 8. The anisotropically conductive sheet according to
2 Claim 1, wherein the semiconductive parts or base sheet
3 contains a sodium salt of an alkylsulfonic acid as a
4 conductive substance.

1 9. A process for producing the anisotropically
2 conductive sheet according to Claim 4, which comprises the
3 steps of forming a sheet-forming material layer with
4 conductive particles which exhibit magnetism, and a
5 semiconductivity-imparting substance contained in a
6 polymer-forming material which will become an elastic
7 polymeric substance by curing, applying a parallel

8 magnetic field having an intensity distribution to the
9 sheet-forming material layer in the thickness-wise
10 direction thereof and subjecting the sheet-forming
11 material layer to a curing treatment.

1 10. A process for producing the anisotropically
2 conductive sheet according to Claim 4, which comprises the
3 steps of providing a sheet for semiconductive part
4 exhibiting semiconductivity, in which through-holes or
5 openings have been formed, forming a layer of a material
6 for conductive part containing conductive particles, which
7 exhibit magnetism, in a polymer-forming material which
8 will become an elastic polymeric substance by curing, in
9 each of the through-holes or openings in the sheet for
10 semiconductive part, applying a parallel magnetic field or
11 a parallel magnetic field having an intensity distribution
12 to the layer of the material for conductive part in the
13 thickness-wise direction thereof and subjecting the layer
14 of the material for conductive part to a curing treatment.

1 11. A process for producing the anisotropically
2 conductive sheet according Claim 6, which comprises the
3 steps of forming a sheet-forming material layer with
4 conductive particles which exhibit magnetism, and a
5 semiconductivity-imparting substance contained in a
6 polymer-forming material which will become an elastic
7 polymeric substance by curing, applying a parallel

8 magnetic field to the sheet-forming material layer in the
9 thickness-wise direction thereof and subjecting the sheet-
10 forming material layer to a curing treatment.

1 12. A connector formed of the anisotropically
2 conductive sheet according Claim 1.

1 13. A method for inspecting a circuit device, which
2 comprises conducting electrical inspection of the circuit
3 device using the connector according to Claim 12.

1 14. An anisotropically conductive sheet comprising
2 an anisotropically conductive sheet member having
3 conductivity in its thickness-wise direction and a static
4 charge-eliminating layer integrally provided on at least
5 one surface of the sheet member.

1 15. An anisotropically conductive sheet comprising an
2 anisotropically conductive sheet member provided with a
3 plurality of conductive parts each extending in the
4 thickness-wise direction of the sheet member in a state
5 mutually insulated by insulating parts, and a static
6 charge-eliminating layer provided on at least one surface
7 of each of the insulating parts in the sheet member.

1 16. The anisotropically conductive sheet according to
2 Claim 15, wherein the static charge-eliminating layer is

3 provided on the insulating parts in the sheet member.

1 17. The anisotropically conductive sheet according to
2 Claim 14, wherein the static charge-eliminating layer is
3 composed of a layer containing a conductive organic
4 substance, amine type organic conductive substance, metal
5 or carbon black, a layer of a thermosetting resin or
6 thermoplastic resin containing a conductive substance
7 therein, or a layer formed of a conductive polymer.

1 18. The anisotropically conductive sheet according to
2 Claim 14, wherein the static charge-eliminating layer is
3 formed of a metallic layer.

1 19. The anisotropically conductive sheet according to
2 Claim 14, wherein the static charge-eliminating layer is
3 formed of a layer, which contains a sodium salt of an
4 alkylsulfonic acid.

1 20. A process for producing the anisotropically
2 conductive sheet according to Claim 14, which comprises
3 the steps of coating a sheet member with a flowable
4 composition for forming a static charge-eliminating layer,
5 which contains a conductive substance and a binder or a
6 curable material which will become a binder to form a
7 coating film, and then subjecting the coating film to a
8 drying treatment and/or a curing treatment, thereby

9 forming the static charge-eliminating layer.

1 21. A process for producing the anisotropically
2 conductive sheet according to Claim 14, which comprises
3 the steps of bonding a film for static charge-eliminating
4 layer to become a static charge-eliminating layer to a
5 sheet member, thereby forming the static charge-
6 eliminating layer.

1 22. A connector formed of the anisotropically
2 conductive sheet according Claim 14.

1 23. A method for inspecting a circuit device, which
2 comprises conducting electrical inspection of the circuit
3 device using the connector according to Claim 22.

1 24. An anisotropically conductive sheet comprising an
2 anisotropically conductive sheet member having
3 conductivity in the thickness-wise direction of the sheet
4 member and formed of an elastic polymeric substance, a
5 conductive part for connection to be connected to an
6 external device or terminal of an electronic part, and at
7 least one conductive part for static-charge elimination to
8 be connected to a ground.

1 25. The anisotropically conductive sheet according to
2 Claim 24, wherein the sheet member is provided with a

3 plurality of conductive parts for connection each
4 extending in the thickness-wise direction of the sheet
5 member in a state mutually insulated by insulating parts,
6 and the conductive part for static-charge elimination is
7 arranged in a blank region outside a region, in which the
8 conductive part for connection is arranged, in the sheet
9 member.

1 26. The anisotropically conductive sheet according to
2 Claim 24, wherein the sheet member is constructed by
3 arranging at least one conductive part for static-charge
4 elimination in a state dispersively in the blank region.

1 27. The anisotropically conductive sheet according to
2 Claim 24, wherein the sheet member is constructed by
3 arranging at least one conductive part for static-charge
4 elimination about the region in which the conductive part
5 for connection is arranged.

1 28. The anisotropically conductive sheet according to
2 Claim 24, wherein the conductive parts for static-charge
3 elimination contains at least one conductive substance
4 selected from among metallic particles, conductive metal
5 oxides, conductive organic substances and carbon black.

1 29. The anisotropically conductive sheet according to
2 Claim 24, wherein the conductive parts for static-charge

3 elimination have the same structure as the conductive part
4 for connection.

1 30. The anisotropically conductive sheet according to
2 Claim 24, wherein the conductive parts for static-charge
3 elimination have the same composition as the conductive
4 part for connection.

1 31. A connector formed of the anisotropically
2 conductive sheet according Claim 24.

1 32. A method for inspecting a circuit device, which
2 comprises conducting electrical inspection of the circuit
3 device using the connector according to Claim 31.